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E-Business an Appraisal in Enhancing Accountability in Service Delivery and Economic Growth

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Abstract
This paper has attempted to assess the appraisal of e-business in ensuring accountability in service delivery and to extent at which it can enhance economic growth. This study reviewed various forms including journal papers, articles, websites and other relevant materials. This paper tested two hypotheses and analyzed them with Pearson Product Movement Correlation Co-efficient. Based on this, it discovered that there is a relationship between E-business and increase in productivity to enhance economic growth in Nigeria and there is also a relationship between E-business and accountability in service delivery. Therefore concludes that trust on services delivery needs to be available for supporting accountability in electronic business transaction.
Keywords: E-business, accountability and service delivery and economic growth.

Introduction

Development of e-business started since introduction of the Internet in early 1990'th last century, 15 years ago from now. There are two e-activities, which are often mixed: e-business and e-commerce. E-commerce means economic transactions, which are made over the Internet, the sales and the purchases of goods and services. These must be not compulsory made over the Internet, but at least initiated. E-business is wider activity, comprising e-commerce but meaning also the integration of the Internet into wider business activities – the management of the operations and production value chain, exchange of information and data, e-banking, etc. E-business is widely spread among the enterprises and population of the developed countries. (Obiwuru et al, 2011).

Attitudes towards e-business are different. Recent data shows that e-business getting the speed and becoming commonly used function among the enterprises as well as increasing the penetration in the society. This can be explained by different reasons, but seems that the applications of e-business overcame the conservative attitudes by showing the real benefits, increased efficiency and profits, by making the spillovers effects from the achievers. According to the Lithuanian experts, usage of the Internet in the enterprises can increase the effectiveness of performance in more than 60 per cent. Effectiveness of performance is understood as the complex indicator meaning competitiveness, efficiency, time and labor force savings, etc. E-business was estimated with lesser points; however, even in Lithuanian it is considered that e-business can increase the efficiency of performance up to 40 per cent.

Problems of the study

Most of the study had revealed on both negative and positive effects of e-commerce. For instance, in 2003, Abukhader from Lund University (Sweden) produced a Licentiate (a degree towards the PhD) dissertation entitled "The Environmental Implications of Electronic Commerce —The Assessment Approach Problem" in the form of a collection of four journal papers in 2003.

Gay et al (2005) developed an environmental input–output life cycle assessment model in 2005 to compare the environmental impacts of a traditional business strategy with an e-commerce strategy, for the personal computer industry specifically.

Sunita and Pratibha (2011) on their paper focused on environment issues of e-business. According to them, that one can argue that pollution from the transportation used to reach shopping malls can be avoided, retail space can be reduced; inventories and waste can also be reduced by the virtue of E-Commerce. However, it should also consider the fact that a product ordered online may be shipped partially by air freight across the country and require local truck delivery. The adverse impacts on the environment due to such transportation can be significant, and the net effect of different logistics systems is not obvious.

This study however, focused on three major issues- its impact on accountability in service delivery, productivity and economic growth as these are crucial factors behind global warming. In this respect, this study conducted a

survey to know the level of impact e-business/e-commerce can play in curbing financial crime and to extent at which it can increase productivity thereby enhance economic growth.
This paper attempts to address these questions, via a review of current literature. To achieve this aim, the paper attempts to give a critical summary of previous work. Journal papers, and articles produced so far will be covered.

Literature review

The overwhelming sustainable development and major technological innovations have not only brought fundamental change to the economic system but also extensive environmental impacts, for better or worse. The environmental implications, in most cases are a reflection of human economic activities as mediated by technology. After decades of development, the Internet brings a new era, in which world wide participants has been increasing. This estimate is given for 1,966,514,866 Internet users on 30th June 2010. E-Commerce sales value is also increasing dramatically along with the Internet users.
From 2009 onward, the Internet is expected to grow significantly in Brazil, Russia, India, China, and Indonesia (BRICI countries). These countries have large populations and moderate to high economic growth, but still low Internet penetration rates. In 2009, the BRICI countries represented about 45 percent of the world's population and had approximately 610 million Internet users. But it is expected that, by 2015, Internet users in BRICI countries will be doubled. With this increase in the usages of Internet its applications, more and more people will use the electronic commerce activities. Sunita and Pratibha (2011).
Kalakota and Whinston, defined e-commerce from four perspectives:
From a communication perspective, e-commerce is the delivery of information, products/services, or payments over telephone lines, computer networks, or any other electronic means; from a business process perspective, e-commerce is the application of technology toward the automation of business transactions and work flow; from a service perspective, e-commerce is a tool that addresses the desire of firms, consumers, and management to cut service costs while improving the quality of goods and increasing the speed of service delivery; from an online perspective, ecommerce provides the capability of buying and selling products and information on the Internet and other online services. Sunita and Pratibha, (2011).
The conceptual model of environmental implications defines e-commerce as the correlative activities among companies and their suppliers. It consists of two layers:
Company layer and its effects layer; Company layer has Intranet view and extranet view, and effects layer consists of primary effects, secondary effects and tertiary effects.
Primary effects are mainly caused by various infrastructures as communication infrastructures, computer infrastructures and Internet infrastructures. Secondary effects come from diversified applications as shown in warehousing, inventories, transportation, packaging and so on. Tertiary effects refer to the adjustment of the consumption pattern, new habits and so on.

1) Primary Effects

Internet is a very useful tool in reducing the building energy intensity. It also encourages sharing of infrastructure like equipments, networks etc. companies providing online movie centers, online advisory agencies, online billing systems do not need physical locations. Thus Internet can prevent the release of large amount greenhouse gases in the world

2) Secondary Effects

Internal departments of the traditional companies, when apply advanced information technologies then it becomes highly efficient with tight collaboration, well communication and fast response. Companies grow very fast by moving many of its operations to the Internet. Many organizations are now using the Internet to improve communication between companies; and its departments. It allows the company to better utilize its existing manufacturing capacity for large investments without making any kind of additional investments. In e-commerce, companies may experience larger numbers of orders with smaller size than experienced in the conventional purchasing system, and this means a new perspective on the packaging issue: durable and reusable packaging sources are needed.

3) Tertiary Effects

People used to visit, search, read, write and access the material online in intra-company systems or inter-company systems. This change in the habit of the individuals avoids the use of papers and thus result in large sum of saved paper consumption. E-commerce supports to less paper resource use or paper less society when often using digital communication for placing orders, sending bills, paying bills and so on. It leads to a "paperless office" or "paper less society" story. Customer purchasing behavior is changed due to ecommerce and they are now moving for online shopping and retailing. Therefore, the rates of logistics will be increased, while there are some services and commodities that can be moved directly online.

Positive Impacts of e-Commerce on Environment

Transportation is responsible for a large percentage of carbon dioxide emissions. It is obvious that reducing the number of vehicle trips is one way of reducing the level carbon emissions. E-commerce applications are the means of conducting business without actually commuting.

Business may further reduce their carbon foot print, by allowing their employees work in virtual office, shopping online and working from home which reduces the number of commuters on the road. The number of commuters may further reduced if more business transactions could be conducted online. Moving towards the paperless society would be advantageous for deforestation which contributes to global warming. There are many ways in which digital transfer of information through ecommerce could be useful.

Ecommerce can potentially reduce waste and the need for inventory, warehouse space, operating cost of business. For example it is not required to have the office space on rent or to send out bills via the traditional more expensive means using papers. Further for the benefit of the environment recyclable packaging of goods must be used.

E-commerce has also been alleged to prevent waste by vastly increasing the efficiency of the market for secondary materials through online auctioning on a global scale.

Consumer protection issues

• Consumer Protection Council Act 1992 makes absolutely no provision in regard to electronic transactions.

• Hungary provides an example of a country with consumer protection laws for e-commerce. It recently updated its Distant Contract Regulations, viz:

This covers sale of goods or services through distant communications of which e-mail is a ready example;

i. Full identity of supplier;

ii. Main characteristics of goods or services;

iii. Cost of delivery and Payment arrangements

iv. Validity period of offer – After sales services and guarantees

vi. Conditions and procedures for exercising right of withdrawal;

Geographical address of supplier's place of business where consumer may address complaints;

- Exemptions include financial services, insurance, investment services.
- Mandatory information that must be provided by the seller includes:
- These details must be sent also in written and durable form (could bee-mail) to the buyer and must be received before or at conclusion of contract.
- Additional information to be supplied to the customer includes:
- Consumer has a right of withdrawal without penalty or need to provide reasons within 8 working days or 3 months if supplier did not comply with its obligations to provide aforementioned information.
- If Consumer exercises his withdrawal option, Supplier must refund amount paid by Consumer within 30 days thereafter.

E-business and accountability

Presently one of the greatest challenges for B2B e-commerce is providing the means for tracing accountability and verifying what happened during online transactions. Many ecommerce players recognize that risks related to the difficulty of proving legal liabilities

in case of disputes are as influential in e-commerce as client risk1 and financial risk combined (Schoder, 2000).

In the conventional world, the two social factors of reputation and law have grounded fair trade for centuries. Since the first days of commerce, buyers and sellers have known each other's identities, first through face-to-face contacts, and later through letters, phone conversations and trusted intermediaries. This knowledge allowed for research into the past histories of the trading partners and helped in solving disputes when deals went bad.

Since electronic transactions have the same legal significance as their traditional counterparts, they are just as susceptible to disputes about what happened during a particular transaction. Any B2B electronic commerce system should guarantee that in case of a dispute the parties are able to identify the responsible entity; thus requiring that trading parties are able to conclusively identify one another (Iden, 2001). Each solution proposes to centralize identity management into one single trust authority. In delivering these solutions the emphasis is on ease of use issues, such as single sign on, or immediate online authentication.

However, one aspect that is often overlooked is the accountability framework that should underpin such a service. Since trading parties will use the service to conclusively identify one another they should be able to hold an identity service provider to account over the identifications it provides. In addition, any actions by the identity service such as registration of identities and identity authentication have to remain verifiable long after the event if the service is to be of any legal value.

It is argued that in order for businesses worldwide to develop trust and confidence in the ability of identity service providers to represent their identity, the infrastructure must provide adequate accountability. Requirements for delivering a *trusted* identity service present significant technical and business challenges.
An e-business scenario is used to illustrate the role an identity service might be expected to play in determining and proving responsibility.
In section 3 we outline requirements that identity services will need to meet if they are to address accountability needs and discuss known and potential technologies that will help in meeting these requirements.

Identity in Management of E-Business
Identity has proved to be problematic over the centuries, as commerce was expanding from small closed communities. The Internet has massively increased the scope of the communities where people and companies trade and interact both by widening the geographic scope and by forming more dynamic and changeable communities. This dynamic nature is magnified by the way people change jobs both within companies and between companies. Whilst two companies are engaged in business it is common for the individuals involved to change. To this extent we consider identities to include not only named individuals, within or outside a company context, but also roles, job titles and even software processes acting as agents. It is with this in mind that identity is better described as a reference to a responsible entity that can be held to account rather than an individual. (Yolanta and Marco, 2000)
Three important aspects of identity within e-commerce are:
1. Ensuring that an action is correctly associated with an identity and that this identity is linked to the originating user or process.
2. Providing profile information associated with the identity.
3. Managing a set of identities to ensure that overall information is accurate.

E-Business and Accountability in Service Identity
From the above discussion, it is clear that there are a number of issues associated with managing identity and its use. Even within a corporate intranet context the management of identity can prove problematic and expensive. On moving to identities for business-to-business commerce identity management presents even bigger challenges with mismanagement leading to greater liabilities. As the previous section has demonstrated, trusted identity providers, as third party services, can be of considerable value both in helping to manage these processes and in providing the technology to underpin the integrity and confidentiality of the identity and related profile information. However, such services must provide clear guarantees over the timescales on which the identities are relied upon and clearly state their management practices.
It is these clear guarantees that keep the identity services accountable. To take on accountability, along with the implied liabilities, they must have very tight computing systems along with professional operating procedures and good audit trails. They are not only accountable for the service they offer but their identity information helps underpin the whole accountability framework by allowing users to be properly linked to their actions – over considerable time periods. If that is not the case the relying parties would no longer trust the identity service and trust may break down in the whole e-commerce application.
This indicates that *trusted identity services* have to deliver on the following at least:
-The credibility and validity of the data it is going to certify has to be properly assessed: in some cases it needs to engage in close interactions with the entities whose identity needs to be certified.
-The service must be trustworthy in the way it manages potentially critical and confidential information.
-The service provider has to ensure business continuity: it must run the service and be able to justify decisions made after many years.
-Identities need to be managed over a long period of time, where certified "statements" could change or might need to be revoked.
These arguments suggest that any identity service delivery model must carefully consider the appropriate accountability framework and the underlying delivery technology. Since many business processes and other e-commerce services rely on the conclusively certified identity the implications of a failure in an identity service can be severe. In the following sections we outline the major requirements for an accountable service and discuss technical approaches.

Effects of E-Commerce on Global Warming
The imagination of the "negative environmental impact" of e-commerce is very difficult. It does not release any pollutants and also not uses much energy or natural resources. The negative environmental impacts of Ecommerce are not only present but also these impacts are significant. The nature and magnitude of these

negative impacts are such that the ways to resolve them are by no means evident or familiar to us.
'Global Warming' is a phrase that refers to the effect of activities on the climate. The burning of fossil fuels (coal, oil and gas) and large-scale deforestation cause emissions of large amounts of greenhouse gases, of which carbon dioxide emission has most significant impacts on global warming. Political leaders had gathered in Kyoto, Japan, in December 1997 to consider a world treaty restricting human production of "greenhouse gases," chiefly carbon dioxide. They feared that CO would result in "human-caused global warming"— hypothetical severe increases in Earth's temperatures, with disastrous environmental consequences. Many political efforts have been made to force worldwide agreement to the Kyoto treaty during the past 10 years.
E-commerce strongly improves the energy efficiency of the economy. Each potential positive impact is coupled with a potentially vast negative impact as well. For example, moving business online can reduce waste such as printed catalogues, retail space, and transportation requirements, but we have to manufacture more energy intensive computers instead! In fact, carbon dioxide emissions and energy use for the online purchase were found to be 35% less than a trip in a car to the mall.

Review of previous work
Quite number of studies has been carried out on electronic business and ICT in different countries. In a paper on External and Internal Environments of Businesses in Nigeria: An Appraisal by Obiwuru et al (2011). The paper attempted at appraising the external and internal environments of a typical business entity in Nigeria, with the generic objective of establishing the relative significance of the environments to business strategic management process. The paper showed that both external and internal factors exert influence on and shape the life, growth and development of the business; external environment bears more relevance to strategic management, and businesses adjust to external environment but control internal environment. It further revealed that the government now plays more of regulatory role in the business environment in some sectors of the economy, according to the study; that, though certain measures had been put in place at various levels to engender conducive business environment for private sector participation, external factors such as multiple tax system, policy summersault, non-passage of the Freedom of Information (FOI) Bill into law, high cost of capital, high interest and inflation rates, volatile exchange rates, susceptibility of the economy to external shocks, infrastructure decay, dismal power supply, etc., escalated cost of doing business in Nigeria and, thus, posed serious threats to firms and industries. While many business organizations had leveraged on their strengths and explored opportunities in their environment, many more were overwhelmed by their weaknesses and, thus, failed before the growth and maturity stages, with the attendant implication that many small and medium scale enterprises did not grow, develop and transform into large and mega scale corporate businesses. Consequently, the paper recommends that reconsideration of such environmental factors that impose unnecessary constraints on businesses in Nigeria also that businesses should minimize their weaknesses by paradigm shift from internal factors that weaken management inefficiencies.
In a similar study by Lan Yi and Thomas (2007), on a review of research on the environmental impact of e-business and ICT; the paper attempts to provide a review of the current state of the art of how e-business/ICT affects the environment.
The review has found that the currently dominant approach is either a micro-level case study approach or a macro-level statistical approach.
The study concluded that traditional assessment approaches are insufficient to accommodate the digital technology revolution and cannot accommodate the challenge of measuring the impacts of ICT on environmental sustainability. New innovative methods need to be created to fill this gap. An artificial neural network based more predictive and empirical model was proposed to extend the traditional impact study methods, and suggested that this approach should help simulate potential impacts resulting from changes of indicators, so that positive effects can be promoted and negative ones alleviated proactively, rather than knowing and accepting outcomes passively.
In another line of the study by Sunita and Pratibha, (2011) on "Environmental Impacts of E-Commerce". The study aimed at creates awareness on the environmental impact of e-commerce and to find whether people are prepared to fix this problem at personal level.
However, the paper concludes that the positive impacts of ecommerce are that it is energy saving and time saving but these aspects are related to negative impacts also, such as pollution, wastage of material, resources and energy. The paper stated that it is very difficult to state that the environmental implications are positive or negative and not easy to clearly define whether the positive effects have the weigh over the negative ones, or the reverse is true, and since, it has two aspects so people need to find how to balance these two aspects. It is totally dependent on the people who are the users of the Internet that how they use it. If it is used properly then it will be in the benefit of the society otherwise it may be the reason of spoiling the environment for forthcoming generations. The important issue is that environment does not have to bear at the cost of the economy. According

to the study that in the future, as consumers become more attentive of the negative environmental impacts of e-commerce, they may insist to select e-commerce with only those organizations that follow the rules and enforce an ethical perspective for reducing its negative impacts as carbon emissions.

Hypotheses

1. HO: There is no relationship between E-business and increase in productivity to enhance economic growth.
   HI: There is a relationship between E-business and increase in productivity to enhance economic growth in Nigeria.
2. HO: There is no relationship between E-business and accountability in service delivery.
   HI: There is a relationship between E-business and accountability in service delivery.

Methodology

The method of analysis for this study is the use of simple correlation analytical technique specifically the Pearson Product Movement Correlation co-efficient which is computed to establish a relationship between e-business/e-commerce and economic growth in Nigeria. The study makes use of primary and secondary sources. The questionnaires was distributed to twenty five (25) of the staff of two manufacturing companies and this was judgmentally selected from the two selected companies; Innoson Nigeria Plc, Nnewi and Nigerian Bottling Company Plc Enugu.

Data will be tested using the Pearson Product Movement Correlation Co-efficient PPMC is represented below as:

$$r = \frac{n\varepsilon xy - \varepsilon x\, \varepsilon y}{\sqrt{n\varepsilon x^2 - (\varepsilon x)^2}\ \sqrt{(n\varepsilon y)^2 - (\varepsilon y)^2}}$$

To test for its significance we use:

$$t = r\sqrt{\frac{n-2}{1-r^2}}$$ Decision criteria, where tc < tx, accept Ho, reject H1

Data Presentation and Analysis

The data utilized for this study consists of the questionnaires collected from the respondents of the two companies under the study.

Hypothesis 1

Qs	**X**	**y**	**xy**	**x^2**	**y^2**
1	15	8	120	225	64
2	12	10	120	144	100
3	19	4	76	361	16
4	13	11	143	169	121
5	15	7	105	225	49
Total	**74**	**40**	**564**	**1124**	**350**

Source: Field survey, 2012

$$r = \frac{5(564)-(74)(40)}{\sqrt{5(1124)-(74)^2}\ \sqrt{5(350)-(40)^2}} = \frac{2820-2960}{\sqrt{(144)(150)}} = \frac{-140}{\sqrt{21600}}$$

r= -.952

Hypothesis 2

Qs	**X**	**y**	**xy**	**x^2**	**y^2**
1	12	11	132	144	121
2	15	9	135	225	81
3	18	5	90	324	25
4	13	10	130	169	100
5	20	4	80	400	16
Total	**78**	**39**	**567**	**1262**	**343**

Source: Field survey, 2012

$$r = \frac{5(567)-(78)(39)}{\sqrt{5(1262)-(78)^2}\ \sqrt{5(343)-(39)^2}} = \frac{2839-3042}{\sqrt{(226)(194)}} = \frac{-207}{\sqrt{43844}}$$

r=-.989

Test of Hypotheses using correlation coefficient r at level of significance.

$$t = -.952\sqrt{\frac{5-2}{1-(-.952)^2}} \quad t = -.952\sqrt{31.9} = -.952\,(5.65)$$

t= -5.38

$$t = -.989\sqrt{\frac{5-2}{1-(-.989)^2}} \quad t = -.989\sqrt{136.4} = -.989\,(11.67)$$

t= -11.54

Decision: since the two calculated value is greater than the table (-5.38>-2.35, -11.54>-2.35), we reject null hypotheses and uphold the alternative hypotheses which stated that there is a relationship between E-business and increase in productivity to enhance economic growth in Nigeria and there is also a relationship between E-business and accountability in service delivery.

Conclusion and Recommendations

This paper has attempted to appraisal the impact of e-business in ensuring accountability in service delivery and economic growth. This study reviewed various forms including journal papers, articles and other relevant materials. Based on this, the paper discovered that there is a relationship between E-business and increase in productivity to enhance economic growth in Nigeria and there is also a relationship between E-business and accountability in service delivery. Meanwhile, e-transaction will actually improved organizational productivity thereby enhancing the growth of the economy. it is pertinent also to note that e-business can actually be successful if accountability, transparency and reliability. It has been attested from various studies and surveys that for e-transaction to be of immense benefit to the society it must be guided properly otherwise it may be a means of attracting internet crime for forthcoming generations. This however, means that trust services might need to be available for supporting accountability in electronic business transaction.

Recommendation

1. To support accountability, adequate services delivery should put in place ranging from, reliability and trustworthiness to privacy and ease of use.
2. More robust and secure approaches such as trusted computer platforms, highly tolerant distributed replication mechanisms, and fine-grained access control.
3. Trust on service delivery is also necessary to be able to establish what is actually taking place during transaction.

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